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ABSTRACT

This quasi-experimental study measured the effects of daily opportunities to draw and write on kindergarten children's ability to represent phonemes in their spelling inventions. All students involved in the study had previously been tested using the Gesell School Readiness Screening Test and placed in developmentally appropriate kindergarten programs. A total of 88 kindergarteners in 4 classes (2 developmentally younger and 2 developmentally older) participated in the study. Children in the experimental groups received daily opportunities to draw and write, while those in the control group received weekly opportunities. During the study, both treatment and both control groups continued their regular program of study: a whole-language approach which included shared-book activities, language experience activities, and exposure to the writing process. Results indicated that kindergarten students' daily participation in discussions about books, and in language and writing activities, was effective in enhancing their phonemic representations in spelling inventions. When compared with kindergarten children who participated in writing activities only once a week, subjects in the experimental group who wrote daily scored significantly higher in their invented spelling ability. Appended are 11 references and related materials. (Author/GLR)

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The Effects of Daily Opportunities to Draw and Write on Kindergarten Children's Ability to Represent Phonemes in Their Spelling Inventions

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Abstract

The effects of daily opportunities to draw and write on children's ability to represent phonemes in spelling inventions were measured in a quasi-experimental study utilizing kindergarten children. All students involved in the study had been screened using the Gesell School Readiness Screening Test (1985) and placed in developmentally appropriate kindergarten programs. The children in the experimental groups received daily opportunities to draw and write, while those in the control group received weekly opportunities to draw and write. During the study, both treatment and both control groups continued their regular program of study--a whole language approach which included shared book activities, language experience activities, and exposure to the writing process. Results showed that those students who drew and wrote daily represented more phonemes in their spelling inventions.

The Effects of Daily Opportunities to Draw and Write on Kindergarten Children's Ability to Represent Phonemes in Their Spelling Inventions

Although the whole language approach has been frequently discussed in recent litrature (Butler & Turbill, 1984; Calkins, 1986; Cambourne, 1988; Goodman, 1986; Strickland & Cullinan, 1990), teachers of young children often do not realize the full implications of the interrelatedness of speaking, listening, reading, and writing. Many of these teachers have adopted such whole language practices as oral language experiences, listening activities, and shared book experiences in their classrooms, but tend to omit the practice of giving their children opportunities to write. Many believe that because young children can't spell and have limited handwriting abilities, they will be frustrated with attempts at writing. Even though several theorists and practitioners have encouraged the practice of providing young children with writing opportunities (Calkins, 1986; Graves & Hansen, 1983; Hall & Hall, 1984; Hipple, 1985), limited research outside of Chomsky's (1976) and Temple et al. (1982) has been done in the area of the relationship between early writing and the development of spelling ability.

This research attempted to examine the classroom practice of providing children with opportunities for daily writing which permit them to write for their own purposes, unencumbered by rules. In doing so, they were free to experiment in a risk-free environment, with what they already knew or were currently learning about the relationship

between letter patterns and sound patterns (i.e. the alphabetic principle). The study sought to explore the theory that the practice of daily writing helps develop children's understanding of the alphabetic principle, thus enhancing their ability to represent phonemes in their spelling inventions (Calkins, 1986; Chomsky, 1976; Goodman, 1986; Temple et al., 1982). The research also sought evidence to support observations that daily writing experiences, as part of an integrated approach, have a positive influence on emergent literacy development.

Method

Subjects

Eighty-eight students enrolled in four kindergarten classes (two developmentally younger and two developmentally older) at a southern public school were selected to participate in the study. The students had been screened using the Gesell School Readiness Screening Test and placed in developmentally appropriate morning or afternoon sessions. The teacher of the two experimental groups had two sessions, one morning and one afternoon, while the teacher of the two control groups had the same class arrangement. At the time of the study, the children ranged in age from 5.5 to 6.5. In the experimental groups, the developmentally younger level contained 20 children, 8 girls and 12 boys, while the developmentally older level contained 23 children, 14 girls and 9 boys. The control groups consisted of 23 developmentally younger children, 9 girls and 14 boys, and 22 developmentally older children, 13 girls and 9 boys. Subjects used were predominantly white and from a lower-middle to upper-middle socioeconomic range.

Instrumentation

The children's ability to represent phonemes in their spelling inventions was measured by a test developed for use in this study. The Invented Spelling Assessment Test (ISAT) was modeled after an informal test suggested by Temple et al. (1982) to assess levels of invented spelling ability (See Appendix A). The instrument was pretested, by four assistants, on 12 kindergarten children from comparable classes. Test scores on individual items were analyzed, yielding an inter-rater reliability of .82 to .92.

For the ISAT, the children were asked to write down the sounds they heard in 10 words. They were also told that they were not expected to know how to spell the words correctly. For each item, the word was spoken, a sentence given, and the word spoken again. The children were given an opportunity to say the word and then asked to write it. Assistants were directed to pronounce each word in a normal voice, and to remind the children, at intervals, to try to write down all the sounds they heard. In addition, the assistants terminated the testing after five items if a student did not respond or appeared to be upset.

Each item of the ISAT was evaluated and given a score based on the criteria used by Temple et al. (1982). In order to give the children credit for representing initial sounds only, the scoring for the Early Phonemic Stage was divided into two phases (See Appendix B).

Procedure

The research design was a four group pretest-posttest quasi-experimental design. The children in the experimental groups

received daily opportunities to draw and write while the children in the control groups received weekly opportunities to draw and write.

Each day, a story was read to the children in both experimental groups. They were encouraged to select personal experiences as topics for the drawing and writing which followed, but were free to write about the stories, too. A few minutes were set aside each day, prior to drawing and writing, in order to consider and share ideas.

As the experimental groups worked they were guided, encouraged, taught, praised, and rewarded. As the children completed their efforts, they were "checked out", to make sure that entries were dated, readable, and/or transcribed. Twice a week, they were invited to share their work from the "author's chair" (Graves & Hansen, 1983). Both control groups received the same treatment, but on a weekly basis.

Throughout the 8 weeks of the study, teaching in the experimental and control groups continued to focus on nurturing the students' literacy development through exposure to stories and books and by fostering an understanding of the form and function of print. After 8 weeks, the assistants administered the ISAT again.

Statistical Analysis

T-tests were used to analyze posttest scores of (1) the children in the experimental and control groups overall, (2) the two groups of developmentally younger children, and (3) the two groups of developmentally older children. A t-test was also employed to determine the difference between pretest and pottest scores (gain scores) of the children in the two levels of treatment groups.

Results

After the data were collected, three independent-sample t-tests and one paired-sample t-test were used to determine if signficant differences existed between the experimental and control groups overall, the developmentally younger experimental and control groups, the developmentally older experimental and control groups, and the gain scores of the two treatment groups.

Statistical analysis of the posttest results of the children in the treatment and control groups (total) indicated a significant difference ($t(86) = 3.65$, $p < .05$) in the invented spelling ability of those subjects in the experimental group. T-test analysis indicated that the experimental group of developmentally younger children scored significantly higher ($t(41) = 3.03$ $p < .05$) than the control group of developmentally younger children in their ability to represent phonemes in spelling inventions.

Statistical analysis of the posttest scores of the developmentally older children showed that the experimental group subjects scored significantly higher ($t(43) = 2.48$, $p < .05$) than the control group subjects in their ability to represent phonemes in spelling inventions. A paired-samples t-test was used to analyze the difference between growth scores of the developmentally older and younger children. The analysis indicated no significant difference ($t(41) = 1.14$. $p > .05$) between the gain scores of the developmentally older and the developmentally younger subjects.

Conclusions

Results of the study indicated that kindergarten students' daily participation in book discussions, language experience activities, and daily writing activities was effective in enhancing their phonemic representations in spelling inventions. When compared with kindergarten children who did only weekly writing activities, subjects in the experimental group who did daily writing scored significantly higher in their invented spelling ability. The experimental groups' ability to represent phonemes did improve with daily opportunities for drawing and writing. Thus, the children's improvement lends support to the theory that regardless of the kindergarten child's developmental level, daily writing helps develop knowledge of the relationship between letter and sound patterns and the form and function of print.

Appendix A

Invented Spelling Assessment Test

1. Late--Kathy was late for school.
2. Wind--The wind was blowing.
3. Shed--The horse is in the shed.
4. Geese--A farmer has geese.
5. Jumped--The frog jumped in the ditch.
6. Yell--We can yell on the playground.
7. Learned--I learned to count to 20.
8. Year--My baby sister is one year old.
9. Shock--Electricity can shock you if you're not careful.
10. Drive--Jim's sister can drive the car.

Appendix B

Criteria Used in Evaluating Spelling Inventions

Prephonemic--A blank space, random, or favorite letters--1 point

Early Phonemic, Stage 1--One phoneme represented--2 points

Early Phonemic, Stage 2--Two phonemes represented; primarily initial & final consonant, 3 consonant sounds--3 points

Letter Name--Initial, middle(vowel), and ending sounds represented; an attempt to represent all phonemes--4 points

Transitional--A spelling that contains features of correct spelling, such as silent **e**, two vowels together, attempts at blends--5 points

Correct--When the word is correctly spelled--6 points

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